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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/840,051

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Michael Bothe

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EXAMINER

GETACHEW, ABYY

ART UNIT

PAPER NUMBER

2841

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/840,051

Applicant(s)

BOTHE ET AL.

Examiner

ABIY GETACHEW

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-23 and 25- 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 0204 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 2 objected to because of the following informalities: The dependency of the claim sequence is not correct. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1- 15 and 17-23 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Machado (6,225,560)

Regarding claim 1, Machado disclose a power supply circuit comprising: at least one transformer (Figure 9 Element 104) [Column 6 line 17], a primary side circuit (Figure 12 Element 120) including a circuit carrier (Figure 9 Element 102) oriented in a first plane (Figure 12, a component package 100 is disposed upon at least one surface 402), the primary side circuit (Figure 12 Element 120) electrically connected to the transformer (Figure 9 Element 104); a secondary side circuit (Figure 12 Element 408) including a circuit carrier (Figure 12 Element 404) oriented in a second plane (Figure 12 Element 400, i.e. multi-layer board) substantially perpendicular to the first plane (Figure 12, a component package 100 is disposed upon at least one surface 402), the secondary side circuit

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(Figure 12 Element 408) electrically connected to the transformer (Figure 9 Element 104), and the primary side circuit (Figure 12 Element 120); [Column 8 lines 41-59]

Regarding claim 2, Machado disclose wherein the plane defined by the at least one secondary side circuit carrier (Figure 12 Element 400, i.e. multi-layer board) extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier (Figure 12 Element 102). (See Figure 13)

Regarding claim 3, Machado disclose a power supply circuit comprising at least one transformer (Figure 9 Element 104) which is connected to a primary side circuit Figure 12 Element 120) and to a secondary side circuit (Figure 12 Element 408), wherein the primary side circuit and the secondary side circuit are each mounted on at least one separate circuit carrier (Figure 12 Elements 102 and 400 respectively), said circuit carriers being mechanically and electrically coupled with one another and arranged in at least two different planes [Column 8 lines 41-59] wherein the primary side circuit (Figure 12 Element 120) is mounted on a plurality of primary side circuit carriers (Figures 9 and 12 Element s102 and a component package 100 is disposed upon at least one surface 402), the planes of which are substantially in parallel with one another (See figure 12).

Regarding claim 4, Machado disclose wherein the at least one primary side circuit carrier (Figure 12 Element 102) is separated by an electrically insulating layer from the at least one secondary side circuit carrier (Figure 12 Element 404).

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(See Figures 7-9, an overmolding 144 or casing of thermoset epoxy has been transfer molded over the base 102 assembly, leaving only the distal ends 145 of the electrical leads 120 exposed. Overmolding secures the elements permanently in place and provides additional insulation and mechanical protection)

Regarding claim 5, Machado disclose wherein at least one of the circuit carriers comprises integrated resistors which can preferably be produced by thick film technology. [Column 1 lines 21-29, Thick-film technology allows fabrication of electronic circuits by an additive method : screen printing of pastes (or inks) onto a substrate. Usually, a ceramic material (96% alumina is the most common) and mineral thick-film materials are used, e.g. with a metallic, ceramic or glassy matrix : conductors, dielectrics and resistors]

Regarding claims 6 ,7 and 8, Machado disclose wherein at least one of the circuit carriers comprises integrated capacitors of a medium dielectric strength.[Column 1 lines 42-52, i.e. an integrated circuit which is bonded to a ceramic carrier and electrically connected to a lead frame providing opposite rows of parallel electrical leads The integrated circuit and ceramic carrier are normally encased in a black, rectangular plastic housing from which the leads extend. Typically, these dual in-line packages are mounted horizontally, i.e. with the leads extending co-planar with the printed circuit board. Such dual in-line packages have heretofore been attached to printed circuit boards by surface mounting techniques]

Regarding claims 9 and 13, Machado disclose wherein the integrated

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capacitors [Column 1 lines 42-52] can be produced by introducing a dielectric precursor into recesses of the circuit carrier [Column 3 lines 4-16]

Regarding claim 10, Machado disclose wherein at least one of the circuit carriers (Figure 12 Element 102) comprises integrated capacitors of a high dielectric strength. [Column 3 lines 4-16]

Regarding claim 11, Machado disclose wherein the integrated capacitors can be produced as a monolayer structure (See Figure 9 element 104, i.e. the transfer mounted on element the base (102))

Regarding claim 12, Machado disclose wherein the integrated capacitors can be produced as a multilayer structure. (Figure 9, microelectronic components (104) mounted on base (102))

Regarding claim 14, Machado disclose wherein at least one of the circuit carriers (Figure 9 Element 104) comprises discrete active and/or passive components [Column 26-39]

Regarding claims 15 and 18, Machado disclose wherein the transformer (Figure 9 Element 104) is an electromagnetic transformer [See figure 104, the transformer is device that changes the voltage and current of an electric supply which provides a path for electrical current to flow that creates a magnetic field caused by an electric current]

Regarding claim 17, Machado disclose wherein at least one of the circuit carriers can be produced from a ceramic material.[See Column 1 lines 42-59, i.e. Machado suggested that an integrated circuit which is bonded to a ceramic carrier and electrically connected]

Regarding claims 19 and 20, Machado disclose wherein the individual circuit carriers are mechanically connectable to one another by means of joint sintering, adhesive bonding or soldering. [Column 6 lines 36-54, i.e. Figure 6 show connections through via soldering or other bonding process]

Regarding claims 21 and 22, Machado wherein it is surrounded at least in part by an electrically insulating coating. (See figure 13 Element 506, the Transformer 104 fabricated in the first process step 502 are disposed within the recesses 112 the base element 102 using mechanical or manual means. Ideally, a small bead of silicone is placed in the bottom of each recess 112 or surrounding the component 104 to temporarily affix the respective component 106 to the base 102]

Regarding claim 23, Machado disclose wherein electrical components are integrated into a coil body of the transformer (See figure 9 element 104).

Regarding claim 25, Machado disclose a method for producing a power supply circuit comprising at least one transformer (Figure 9 Element 104), a primary side circuit (Figure 12 Element 120) and a secondary side circuit (Figure 12 Element 408), said method comprising the following steps: mounting the primary side circuit (Figure 12 Element 120) on at least one primary side circuit carrier (Figure 12 Element 102); mounting the secondary side circuit (Figure 12 Element 408) on at least one separate secondary side circuit carrier (Figure 12 Element 400); and electrically and mechanically coupling the circuit carriers with the transformer (Figure 9 Element 104), the circuit carriers being arranged in at least two different planes (See figure 12), wherein the plane which is defined by

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the at least one secondary side circuit carrier (Figure 12 Element 400) extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier (See figure 12), and wherein the at least one primary side circuit carrier (Figure 12 Element 120) is separated by an electrically insulating layer (Figure 9 element 144) from the at least one secondary side circuit carrier (Figure 12 Element 408).

Regarding claim 26, Machado disclose A method for producing a power supply circuit comprising at least one transformer (Figure 9 Element 104) , a primary side circuit (Figure 12 Element 120) and a secondary side circuit (Figure 12 Element 408), said method comprising the following steps: mounting the primary side circuit (Figure 12 Element 120) on at least one primary side circuit carrier (Figure 12 Element 102); mounting the secondary side circuit (Figure 12 Element 408) on at least one separate secondary side circuit carrier(Figure 12 Element 400); and electrically and mechanically coupling the circuit carriers (See figure 12) with the transformer (Figure 12 Element 100, the transformer 104 shown in figure 9), the circuit carriers being arranged in at least two different planes (Elements 102 and 400), wherein the primary side circuit (Figure 12 Element 120) is mounted on a plurality of primary side circuit carriers (Figure 12 Element 102), the planes of which are substantially in parallel with one another (See figure 12).

Response to Arguments

4. Applicant's arguments with respect to claims 1-15 and 17-26 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIY GETACHEW whose telephone number is (571)272-6932. The examiner can normally be reached on Monday to Friday 8Am to 4:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DEAN REICHARD can be reached on (571)272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy C. Norris/
Primary Examiner, Art Unit 2841

Abiy Getachew
Examiner
Art Unit 2841

A.G.
September 12, 2008

